The purpose of the study was to determine the interaction between drought
stress with sweet potato varieties, what varieties are best growth and results indrought conditions, the effect of drought on growth and yield of sweet potato , aswell as a wide variety of influences on the growth and yield of sweet potato. Thestudy was conducted at the Faculty of Agriculture Experiment UPN "Veteran"
Yogyakarta, Wedomartani Village, Maguwoharjo, District Depok, Sleman
regency, Yogyakarta. The experiment was conducted in April to August 2013.
Research a polybag experiment with 2 factors. The design is a design environment
used Compartment Divided (Split Plot Design) , as the main plot is kind of sweetpotato varieties include V1 : Varieties Beta 2 , V2 : Varieties Papua Solossa , V3 :
Varieties Sari, V4 : Varieties Beta 1, V5 : Varieties Kidal. Sub- plot is drought
stress include C1 : Plants watered normally, C2 : Plants not watered for 7 days at20 days after planting, C3 : Plants not watered for 7 days at 60 days after planting.
The treatment was repeated 3 times. The data were analyzed using analysis ofvariance followed by Duncan 's Multiple Range Test Test (DMRT) at 5%
significance level.
The results showed there was an interaction between varieties of sweetpotato and stress treatments on the length of the main stem and stover dry weight
per plant. Long stem Papua Solossa varieties and varieties Left longer than Beta 1without stress treatment, stress 20 dap, 60 dap and stress. Stover dry weight perplant treatment without stress, stress 20 dap, 60 dap and stress did not show
significant differences in varieties of Beta 2, Papua Solossa and Sari. VarietiesSari and Beta 2 gives the weight of tuber per plant higher. Varieties Papua Solossaand Kidal provide a higher starch content.

Keywords : sweet potato, varieties, drought stress